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ECLIPSE GROUP DOCKET NO. H103027USU (P02017US)

REMARKS

I. INTRODUCTION

Claims 1, 3-7, 11-19, 21, 22, and 24-28 are pending in this present application and stand rejected in the present application. In the November 24, 2009 Final Office Action, the Examiner:

1. Objected to claims 25 and 26 because of certain informalities;
2. Rejected claims 1, 3, 5-7, 11-15, 17-19, 21, 22, 24, and 26-28 under 35 U.S.C. § 102(b) as being anticipated by *Roozen et al.* (U.S. Patent No. 5,892,183); and
3. Rejected claims 1, 3-7, 12, 14-16, 18, 19, 24, 25, 27, and 28 under 35 U.S.C. § 102(b) as being anticipated by *Welch et al.* (U.S. Patent No. 4,206,831).

Applicant has amended claims 1, 5, 6, 11-14, 17-19, 21, 22, and 25-28 to clarify the claimed invention as explained below in Section II. No new matter has been introduced by these amendments. As to the rejections under 35 U.S.C. § 102(b), Applicant respectfully traverses.

II. AMENDMENTS TO CLAIMS

Claims 25 and 26 have been amended to correct the informalities cited in the Office action, and therefore the objections to claims 25 and 26 are now moot and can be withdrawn.

Claims 1, 5, 6, 11-14, 17-19, 21, 22, and 25-28 have been amended to clarify the invention recited in the respective claims and to correct certain grammatical errors and inconsistencies in the claims. Claims 1, 11-14, 17, and 26 were amended by changing the phrase "control surface" to "control curve." Support for these amendments may be found, for example, at page 6, paragraph 22, lines 1-7, page 10, paragraph 30, lines 3-7, original claims 1 and 7, the abstract, and elsewhere throughout the specification.

Claims 5, 6, 18, 19, 21, 22, 27, and 28 have been amended by changing the phrases "an axis" and "the axis" to "a first axis" and "a second axis," respectively. Support for these amendments may be found, for example, at page 8, paragraph 25, lines 5-10, pages 9-10, paragraph 29, lines 5-9, FIGs. 2 and 5, and elsewhere throughout the specification.

Additionally, claims 11-14, 17, and 26 have been amended by changing the term "waveguide" to "acoustic waveguide" to make the claims consistent throughout. Additional changes have been made to claims 1 and 12-14 to correct minor grammatical errors.

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Accordingly, no new matter has been added by these Amendments. Moreover, Applicants reserve the right to present the amended claims in their original form in one or more continuing applications.

III. REJECTION OF CLAIMS 1, 3, 5-7, 11-15, 17-19, 21, 22, 24, AND 26-28 UNDER 35 U.S.C. § 102(b)

Claims 1, 3, 5-7, 11-15, 17-19, 21, 22, 24, and 26-28 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Roozen et al.* (U.S. Patent No. 5,892,183). The Examiner in the November 24, 2009, Non-Final Office Action, states that:

Regarding claim 1, Roozen teaches an acoustic waveguide (base reflex port, 5), comprising: a first control curve; a second control curve; a third control curve; a fourth control curve (figs. 2-5, wherein port 5 is a round cross-section having a diameter); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (5b) and a non-elliptical closed control surface that defines a mouth (5c).

Applicant respectfully submits that the Office action fails to show where in the cited reference, *Roozen et al.*, the limitations of claim 1 may be found. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987), MPEP § 2131. "We thus hold that unless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102." *Net MoneyIN v. VeriSign, Inc.*, 545 F.3d 1359, 1371, 88 U.S.P.Q. 1751 (Fed. Cir. 2008).

As for claim 1, as amended, this claim may be summarized as six control curves, that is, a first control curve, a second control curve, a third control curve, a fourth control curve, a circular throat end (the fifth curve), and non-elliptical closed control curve that defines a mouth, which together define an acoustic waveguide. Specifically, claim 1 recites a continuous three-dimensional surface that coincides with the four control curves and that also intersects the fifth and the sixth curves.

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Roozen et al., in general, relates to a loudspeaker system that includes a loudspeaker and a bass-reflex port having two open ends. The bass-reflex port has a longitudinal axis and a length defined by the two open ends, and has a passage that flares toward the two open ends, thereby providing flared portions. These flared portions have bounding lines that extend at an angle α with respect to the longitudinal axis of the bass-reflex port. *Abstract.* The Office action, as described above, merely states that *Roozen et al.* teaches an acoustic waveguide that comprises a continuous three-dimensional surface coincident with a first control curve, a second control curve, a third control curve and a fourth control curve that intersects a circular throat end 5b and a non-elliptical closed control surface that defines a mouth 5c, referring to FIGs. 2-5, bass-reflex port 5, and open ends 5b and 5c.

Specifically, the Office action fails to describe or indicate with any specificity where four separate and distinct control curves are disclosed or taught in *Roozen et al.* Applicant respectfully submits that *Roozen et al.* does not disclose a continuous three-dimensional surface coincident with four separate and distinct control curves because the bass-reflex port 5 of *Roozen et al.*, discloses a circular passage that may be defined by a single parabolic bounding line. In one example, the bass-reflex port 5 has a length L of 13 cm and a round cross-section having a minimum diameter D of 2 cm, and a passage that flares towards the open ends 5b and 5c. These flared portions are defined by parabolic bounding lines 7 that extend at varying angles α with respect to the longitudinal axis 5a (in this example, the angle α has a value between 3° and 12°). Col. 3: lines 6-19.

In other words, the acoustic waveguide described in the bass-reflex port of *Roozen et al.* is defined by a single parabolic bounding line with respect to a longitudinal axis of a passage that flares between its open ends. Accordingly, with a single bounding line, the passage in the bass-reflex port of *Roozen et al.* is essentially a two-dimensional surface and not a continuous three-dimensional surface coincident with four control curves. As stated at paragraph 9 of the specification, a "solution" to the so-called "Laplace's Wave Equation" is "limited to axis-symmetric acoustic waveguides that are simply surfaces of revolution formed by a single, two-dimensional curve, i.e., horns having round throat and round mouths, about the primary axis."

This is an accurate description of the waveguide disclosed in *Roozen et al.* Additionally, *Roozen et al.* also discloses a round throat and a round mouth, in contrast to claim 1, as amended,

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which recites a circular throat end and a non-elliptical closed control curve that defines a mouth. That is to say, both of the open ends 5b and 5c, if they can even be considered a throat and a mouth, are circular because there is nothing in *Roozen et al.* that indicates that the passage in the bass-reflex port is anything other than circular throughout its length. Thus, *Roozen et al.* also fails to disclose a "non-elliptical closed control curve that defines a mouth" as recited in claim 1, as amended.

In summary, Applicant respectfully submits that *Roozen et al.* does not disclose or teach the claimed invention as specified in claim 1 and as arranged in claim 1, specifically, the limitations of (1) a continuous three-dimensional surface coincident with four control curves; and (2) a non-elliptical closed control curve that defines a mouth. Accordingly, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claim 1 and claims 3-6 and 11, which depend directly or indirectly from claim 1.

Claims 7, 12, 13, and 14 include similar features to those recited in claim 1, such as generating a continuous three-dimensional surface formed by extending a first control curve, a second control curve, a third control curve and a fourth control curve to intersect a circular throat end and a non-elliptical closed control curve forming a mouth in claim 7, and a continuous three-dimensional surface coincident with a first control curve, a second control curve, a third control curve and a fourth control curve that intersects a circular throat end and a non-elliptical closed control curve that defines a mouth in claims 12, 13, and 14. Additionally, there are additional limitations in these claims that are not found in *Roozen et al.*, such as the continuous three-dimensional surface being swept about a central axis of the acoustic waveguide with minimal discontinuities in claim 12, the continuous three-dimensional surface comprising a minimum surface area axial section plane formed from the control curves, where the minimum surface area axial section plane is disposed at a midsection of the acoustic waveguide, in claim 13, and each of the first, second, third and fourth control curves being convergent-divergent relative to an axial centerline of the acoustic waveguide in claim 14. Therefore, for reasons analogous to those presented with respect to claim 1, Applicant respectfully requests withdrawal of the anticipation rejection with respect to claims 7, 12, 13, and 14, as well as claims 15-19, 21, 22, and 24-28, that depend directly or indirectly from claims 12, 13, and 14.

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Additionally, Applicant does not otherwise concede the correctness of the Office action rejections with respect to any of the dependent claims referred to above and Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences discussed above with respect to the independent claims.

IV. REJECTION OF CLAIMS 1, 3-7, 12, 14-16, 18, 19, 24, 25, 27, AND 28 UNDER 35 U.S.C. § 102(b)

Claims 1, 3-7, 12, 14-16, 18, 19, 21, 24, 25, 27, and 28 are rejected under 35 U.S.C. § 102(b) as being anticipated by *Welch et al.* (U.S. Patent No. 4,206,831). The Examiner in the November 24, 2009, Non-Final Office Action, states that:

Regarding claims 1 and 14, Welch teaches an acoustic waveguide (horn, 5), comprising: a first control curve; a second control curve; a third control curve; a fourth control curve (figs. 2-3, wherein horn 26 is a round cross-section); and a continuous three-dimensional surface coincident with the first control curve, the second control curve, the third control curve and the fourth control curve that intersect a circular throat end (near 20) and a non-elliptical closed control surface that defines a mouth (near numeral 38).

Applicant respectfully submits that the arguments made in Section III above with respect to *Roozen et al.* equally apply to *Welch et al.* In general, *Welch et al.* relates to a loudspeaker 10 with an electrically driven diaphragm 14 coupled to the atmosphere through a hollow coupler 16, where the inlet end 18 of the coupler has a cross-sectional area comparable to the effective cross-sectional area of the diaphragm 14 (FIG. 2 and col. 3: lines 23-35). Referring to FIG. 2, an exponential horn 26 is shown schematically, with its inlet end (generally referred to as the "throat") coupled to the electrically driven diaphragm 14 through a hollow coupler 16. Col. 4: lines 5-17.

Again, the Office action fails to describe or indicate with any specificity where four separate and distinct control curves are disclosed or taught in *Welch et al.* The portion of the

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Office action cited above refers only to FIGs. 2-3, horn 26, and a circular throat end 20. Applicant respectfully submits that *Welch et al.* does not disclose a continuous three-dimensional surface coincident with four control curves for the same reason that *Roozen et al.* does not, and that is that both the hollow coupler 16 and the exponential horn 26 of *Welch et al.* generally describe axis-symmetric acoustic waveguides that are simply surfaces of revolution formed by a single, two-dimensional curve, e.g., couplers and/or horns having round throats and round mouths, about a primary axis. For example, the coupler in FIG. 1 of *Welch et al.* may be generated symmetrically about a common longitudinal axis, as is the case in FIG. 2 (col. 3: lines 41-44).

Thus, *Welch et al.* does not disclose a continuous three-dimensional surface coincident with four control curves that intersects a circular throat end and a non-elliptical closed control curve that defines a mouth. Again, the combination of loudspeaker diaphragm 14, coupler 16, and exponential horn 26 are generated symmetrically about a common longitudinal axis 38 (col. 5: lines 1-4) and thus the waveguide of *Welch et al.* is a two-dimensional and not a three-dimensional surface. Lacking this element/limitation, *Welch et al.* does not anticipate claim 1, as amended.

As for the rejection of independent claims 7, 12, and 14, Applicant respectfully repeats the arguments set forth in Section III above. Accordingly, Applicant respectfully requests withdrawal of the anticipation rejection under *Welch et al.* with respect to claims 7, 12, and 14, as well as claims 15-19, and 24-28, that depend directly or indirectly from claims 12 and 14.

Additionally, Applicant does not otherwise concede the correctness of the Office action rejections with respect to any of the dependent claims referred to above and Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences discussed above with respect to the independent claims.

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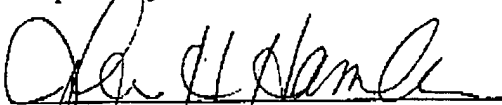
CONCLUSION

Favorable consideration is respectfully requested in view of the following amendments and remarks.

The Commissioner is authorized to charge any additional fees that may be required, or credit any overpayment, to our deposit Account No. 50-2542. A copy of this sheet is enclosed.

Dated: 4/7/2010

Respectfully submitted,



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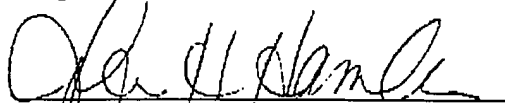
CONCLUSION

Favorable consideration is respectfully requested in view of the following amendments and remarks.

The Commissioner is authorized to charge any additional fees that may be required, or credit any overpayment, to our deposit Account No. 50-2542. A copy of this sheet is enclosed.

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